



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,174	01/21/2004	Akashi Satoh	JP920020242US1	4993
<div>7590 Ryan, Mason & Lewis, LLP 90 Forest Avenue Locust Valley, NY 11560</div>			<div>EXAMINER MAI, TAN V</div>	
			<div>ART UNIT 2193</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE 09/26/2007</div>	<div>DELIVERY MODE PAPER</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/762,174

Applicant(s)

SATO ET AL.

Examiner

Tan V. Mai

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2007.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-13 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kelley et al.

Rejection grounds continue to be those set forth in the previous office action (Paper dated 4/24/07, paragraph 4).

3. Claims 2 and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al.

Rejection grounds continue to be those set forth in the previous office action (Paper dated 4/24/07, paragraph 5).

4. Applicants' arguments filed on 7/24/07 have been fully considered but they are not persuasive.

Applicants, in their remarks, argue THREE major points that:

(1) "[I]n the Kelley reference, FIG. 3 includes adder 560. However, no where does Kelley teach or suggest the adder converting a redundant binary number outputted from the Wallace tree block into a two's complement form. The only reference to "two's complement" refers to the values of a(i) or b(i), or both, have slight restrictions placed on them, such as when the a(i) or b(i), or both, are two's complement numbers, and a(i) and b(i), or both, never have a maximum negative value, the number of bits in one or both of the sum register 580 and the carry register 585 can be designed to be one bit smaller";

(2) "[r]egarding claim 2, the Kelley reference, even if modified, does not teach or suggest a result of the calculation of the sum calculation block is outputted as a result of the multiplication over an extension field of two";

(3) "[w]ith regard to claim 3, Applicants assert that the Examiner has failed to provide any explanation of the reasoning in reaching the conclusion that this claim is unpatentable (e.g., indicating the specific portions of each patent which the Examiner believes render obvious each limitation of the claim)" (emphasis added).

With respect to the arguments, the examiner carefully reviews Applicants' claimed invention and the applied references.

First, it is well known in the art that an adder, e.g., adder 740 of Fig. 3, which combines the results of "sum calculation block" and "carry calculation block" to provide the final result in two's complement form if one of operand a(i) / b(i) is two's complement number.

Second, "result of the multiplication over an extension field of two" is merely a result of Galois field / finite field computation. Hansen et al (Ref. B) does Wallace tree technique, i.e., carry save adder, in the Galois field and finite field. Therefore, it would be obvious to a person having ordinary skill in the art to use to sum "portion" of the 4-2 ADD (Fig. 211) as the claimed "result of the multiplication over an extension field of two".

Third, in Kelly, the output of adder is actually the claimed "result of the addition as a result of the multiplication for integers".

Therefore, the rejections are still proper.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An, can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.



Tan V. Mai
Primary Examiner